In order to achieve an effective collaboration and open access network, LA-CoNGA physics[1] (Latin American alliance for Capacity buildiNG in Advanced physics) embraces the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities goals:

> "Our mission of disseminating knowledge is only half complete if the information is not made widely and readily available to society. New possibilities of knowledge dissemination not only through the classical form but also and increasingly through the open access paradigm via the Internet have to be supported. We define open access as a comprehensive source of human knowledge and cultural heritage that has been approved by the scientific community.
>
> In order to realize the vision of a global and accessible representation of knowledge, the future Web has to be sustainable, interactive, and transparent. Content and software tools must be openly accessible and compatible."[2]

The following data management plan is intended to preserve, provide and protect content generated by LA-CoNGA activities

1. Data Summary

LA-CoNGA physics (Latin American alliance for Capacity buildiNG in Advanced physics) is an European-Latinamerican network which aims to support the modernization of the university infrastructure and the pedagogical offer in advanced physics in four Latin American countries: Colombia, Ecuador, Peru and Venezuela. This virtual teaching and research network is composed of 3 partner universities in Europe and 8 in Latin America, high-level scientific partners and several academic and industrial partners. In practice LA-CoNGA physics has created a set of postgraduate courses in Advanced Physics (high energy physics and complex systems) that are common and inter-institutional, supported by the installation of interconnected instrumentation laboratories and an open e-learning platform.

The data output of the program is heterogeneous and comprises a series of multi format teaching and general design documents as recorded lectures available in video, the material from the lectures and tutorials and collected data regarding the student quorum and performance, datasets collected by the project's scientific equipment, software to analyse those datasets, talks at conferences and workshops, etc. Data will be collected in open file formats whenever possible and classified for internal/protected use or publication. LA-CoNGA physics is co-financed by the Erasmus+ Capacity Building program from the Education, Audiovisual and Culture Exchange Agency (EACEA) for three years between January 2020 and January 2023. The owner of the educational and research resources/content produced in the project is LA-CoNGA physics.

2. FAIR[3] content

2.1 Making data findable

Our educational content, software and data will be given DOI by the used repository and will be linked via the DOI to corresponding publications and to appropriate research information systems. Author.s identification via ORCID will be used. The metadata information associated with the different kinds of content produced can be found at https://github.com/LA-CoNGA/OLS/blob/main/METADATA.md.

2.2 Making data openly accessible

The research and educational data will be archived following publications or project ending, and will be stored for at least 5 years. Archiving will be fulfilled self-responsibly or using the institutional archive system in accordance with Erasmus+ CBHE and EACEA funding guidelines, and partners guidelines. Content relevant for other researchers, teachers and students will be made publicly accessible; especially the videos and materials will be published as Open Educational Resources (OER) under open access licences [More

[1] LA-CoNGA physics: https://laconga.redclara.net

[2] Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities

[3] FAIR: (F)indable, (A)ccessible, (I)nteroperable and (R)e-use

information at https://github.com/LA-CoNGA/OLS/blob/main/LICENSE.md]. For publishing we will use a Latin American based repository and target partner institutions' repositories at research data centers that were accredited. Because of personal data, some of the collected data through community surveys will not be made publicly accessible.

2.3 Making data interoperable

Data and metadata will be adequately documented enabling comprehension or reuse by other researchers, teachers and students in accordance with the FAIR principles. Whenever possible, the data will (also) be stored in non-proprietary open and/or common file formats. We will use suitable metadata standards or controlled vocabularies. You may look for our metadata description at https://github.com/LA-CoNGA/OLS/blob/main/metadatos.md

2.4 Increasing data re-use

During the course of the project, the project partners will discuss and specify the data to be archived. Access to our content will be provided under open licenses, Creative Commons Attribution 4.0 for process documents and data and GPL v3 for software, more info at https://github.com/LA-CoNGA/OLS/blob/main/LICENSE.md. Access to pseudonymised data will be provided by the consortium coordination team on an individual basis and password protected. Data quality will be assured through internal peer review processes.

Occasionally LA-CoNGA physics will use data from other projects and/or institutions. These data will be treated in accordance with the policies established by the owner project and/or institution.

3. Responsibility and resources

Within our project there is the figure of the Data Officer in charge of the governance, advising, ensuring the quality and monitoring of the project's data respecting this Data Management Plan. In practical terms it means enabling data usability along with efficiency and availability. The term of the Data Officer is a year and a half with the possibility of renewal for an additional term.

Responsibility for data management during the project: Data Officer

Responsibility / contact person after the end of the project: Data Officer at the end of the project

The project uses the IT resources and the support by CEDIA[4] (Corporación Ecuatoriana para el Desarrollo de la Investigación y la Academia) and RedCLARA[5] (Cooperación Latino Americana de Redes Avanzadas).

4. Data Organization and Data Security

Access to the data is regulated through user rights. The data is stored in a uniform structure and naming convention that is still comprehensible after the end of the project.

5. Data Privacy and Ethical aspects

In accordance with the guidelines of IT security and with consultation of the data officer of the LA-CoNGA physics and the project members, a concept for handling personal data is created to ensure data handling of personal data follows regulations by the grant[6] and partnership agreements.

6. Other Issues / Policies

[4]CEDIA: https://www.cedia.edu.ec/es/

[5] RedCLARA: https://www.redclara.net/index.php/en/

[6] According to Erasmus+ CBHE LA-CoNGA physics Partnership Agreement Art. 10 / 11 and its Grant Agreement Art. 2.6 / 2.7

The data management in this project follows the Erasmus+ guidelines[7] on open access and data management and the Guidelines for Safeguarding Good Scientific Practice as well as the Guidelines on the Handling of Research Data of the members of the LA-CoNGA physics consortium partners.

7. History of Changes
Current Version: 1
Version 1 (2021.05)

During the course of the project, we will cooperate with our partners' Service Center Research Data (or similar offices when existent) in updating the data management plan.

[7] Erasmus+ Programme Guide; Data protection, Open Access Requirement, Open Licence and intellectual rights property (266,267).